App. No. 10/754,416
Office Action Dated May 3, 2006

REMARKS

Favorable reconsideration of this application is requested in view of the above amendments and the following remarks. The Specification is hereby amended.

The Specification is objected to for various informalities. The Specification is amended to address the concerns of the Examiner. Favorable reconsideration of the Specification is requested.

Claims 12-16 were rejected as being unpatentable over Nakatani (US 5,484,647) in view of Fukutake (US 5,473,118). Applicants traverse this rejection. The combination of Nakatani and Fukutake does not teach a method for manufacturing a double-sided circuit board, including the step of heating and pressing the laminate to allow hollow pores of a porous sheet to be filled with resin, wherein at least a central portion of the porous sheet is not completely impregnated with a resin, as required by claim 12. Rather, Nakatani teaches use of a resin-impregnated fiber-reinforced prepreg, and therefore does not suggest a step of heating resin to a molten state so as to fill hollow pores. The rejection relies on Fukutake to teach the claimed resin layer. However, Fukutake teaches an adhesive that is applied to the surface of both sides of a porous fluoropolymer film on which a polyimide or polyester film is overlaid so as to be unified. The adhesive taught by Fukutake contains an organic solvent whose viscosity is adjusted between 30 and 100 centipoise, so as to enable impregnation into the porous fluoropolymer film (see column 6, lines 51-57).

The method of claim 12 provides a double-sided circuit board that is both uniform and thin, and suitable for a small diameter inner via hole. Even if a reinforcing material (e.g. porous sheet) with little compression performance is used, the method of claim 12 would still provide a circuit board with an inner via hole having high connection reliability, since the resin fills the hollow pores due to the heating and pressing step, rather than relying only on sufficient pressing force. Therefore, when using a high density porous sheet with the method of claim 12, it is possible to provide a circuit board having an IVH (interstitial inner via hole) structure. Such a

via hole is difficult to provide using conventional material, such as that taught by Nakatani (e.g. a prepreg using an aramid non-woven fabric).

Favorable reconsideration of claims 12-16 is requested.

In view of the above, favorable reconsideration in the form of a notice of allowance is requested. Any questions regarding this communication can be directed to the undersigned attorney, Douglas P. Mueller, Reg. No. 30,300, at (612)455-3804.

Respectfully Submitted,

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